Module 3: Basic Agile Concepts – when and where to apply it

TLO: Given a contractor's development approach student will recognize alignment with agile principles

ELOs

1. Recognize conditions in the DoD environment that make it appropriate (or inappropriate) to consider Agile
2. Recognize what a program office would see in an Agile program vs a traditional one

Assessment

MT – Although not explicitly called out yet in DoD acquisition policy, there are many more enablers to using Agile in DoD today than there were 5 years ago (ELO 1)

LP – Contractors are regularly proposing Agile as a solution approach regardless of government systems engineering methodology (ELO 1)

MT – Agile projects increase visibility of actual project completion instead of waiting for a missed transition or software lifecycle event (ELO 2)

Module Story

What story do we want to tell as motivation and to support terminal learning objective

Module Contents

1-Recent regulations related to Agile (ELO 1)

2-Defense contracting trends in the use of Agile (ELO 1)

3-Agile as a risk mitigation strategy (ELO 2)

4-Differences between traditional and Agile development (ELO 2)

Subtopic 1: Recent regulations related to Agile

- US Digital Services Agency – Digital Playbook
- GSA – 18F Digital Services
- DoDI 5000.02 acquisition lifecycle models
- CJSCI 3170.01I JCIDS manual / IT Box
- Better Buying Power 3.0 tenets
- Major Takeaway:
  - Major Takeaway 6 – Although not explicitly called out yet in DoD acquisition policy, there are many more enablers to using Agile in DoD today than there were 5 years ago

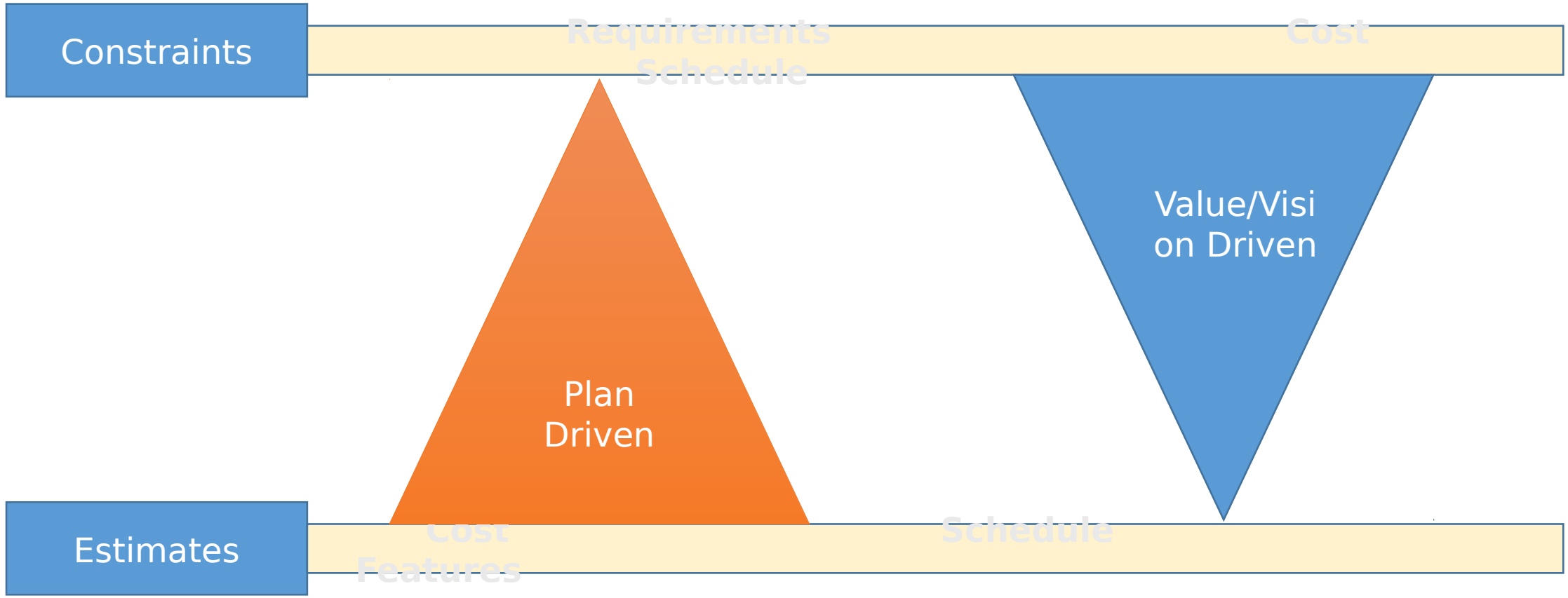
Subtopic 2: Defense contracting trends in the use of Agile

- System integrators supporting DoD:
  - Agile is often used within the context of a traditional systems engineering / acquisition lifecycle, especially when introduced mid-contract
  - Sometime use of Agile principles begins in a covert way due to perception of organizational resistance
  - Agile projects and teams use metrics to manage efficient delivery
    - Strong ties between health of metrics and definition of done
    - Metrics support system integrator ability to produce Earned Value Management data
  - Industry partners are using established frameworks that scale Agile tenets to larger projects typical in Defense
  - Major Takeaway:
    - Major Takeaway 7 – Contractors are regularly proposing Agile as a solution approach regardless of government systems engineering methodology

Subtopic 3: Differences between traditional development and Agile development

- Both Waterfall and Agile Development Methods have Risks
- The Traditional approach is hardware centric
  - Classic Engineering V (Assuming a Hardware-centric system)
  - Difference between Model 1 and Model 2 of DOD5000
- Waterfall and Agile both use the same development basic building blocks – Analyze, design, build, test, and deploy.
  - Step through how waterfall and agile processes these differently – waterfall, incremental, agile
- Describe the Agile Approach
  - Scrum Example (Key elements, framework, terms, artifacts, ceremonies)

Comparison between Waterfall and Agile Process



Subtopic 3: Differences between traditional development and Agile development

- There are times when Agile does not apply
  - Traditional approach situations
  - Agile approach works well situations
  - Show where the best of Agile counters the worst of traditional
- When should it not be considered?
  - Sufficient user/stakeholder involvement is key (move to module 3)

Subtopic 4: Agile as a risk mitigation strategy

- The Agile methodology approach recognizes that requirements WILL change and plans in advance for it
- Operational tempo that delivers software raises visibility of project issues and risks
- Key to risk mitigation is establishing and enforcing the definition of done
- Major Takeaway:
  - Major Takeaway 5 – Agile projects increase visibility of actual project completion instead of waiting for a missed transition or software lifecycle event.

Agile/Hybrid/Waterfall Overview